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ABSTRACT

Though many generalizations are made about college students and many of these are taken as facts, little is actually known about them. It is not that there is a lack of literature about them, but a lack of evidence, data, and information. This information is desperately needed because so many decisions on a college campus should be based on accurate student data. Few of the studies on college students have been comprehensive, well-designed, or based on solid evidence, and few generalizations can be drawn from them. At the University of Minnesota, studies have been made on diversity among students, diversity within students, diversity in student background, resident-commuter differences, and attitudinal and interest differences. These studies have been helpful, but better questions must be asked and more relevant information must be gathered to assure the adequacy of institutional programs. (AF)

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CHARACTERISTICS OF STUDENTS TODAY*

Ralph F. Berdie
Director, Studies of Student Life
Office of the Dean of Students,
University of Minnesota

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The following statements about University students are accepted by many persons as facts:

Students today are not as carefully selected intellectually as were students in past decades.

Students today are better prepared for college than were students yesterday.

Students today have a good idea of why they are in college.

Students today have no values.

Most college students at some time or another in their academic careers are involved in cheating.

Most college students essentially are honest.

A few years after college most students have forgotten a large part of the information they acquired, but they have retained the broad principles and generalizations learned in college.

College experiences change the attitudes and values of students.

College has little impact on students.

Students' academic success can be predicted accurately.

Moral values of students today are different from those of yesterday's students.

All students who are strongly motivated and who possess a high order of general intellectual ability or academic aptitude can master the fundamentals in communications, English and foreign languages, mathematics, humanities, and the social, behavioral, and natural sciences.

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Employment of students on outside jobs is not detrimental if the number of hours of employment is limited.

Lectures and textbooks provide the most effective vehicles of instruction in college.

My purpose in listing these presumed facts is obvious. We simply do not know whether or not these statements are true. For the most part, generalizations about college students are based on opinion or folklore, and occasionally on observations of small and selected groups of students, usually at one or a few institutions during a restricted period of time. We have some reason to believe that the attitudes of students at Vassar a few years ago were changed while they attended college (Sanford, 1962), and we have some evidence that suggests that the attitudes of University of Minnesota students a few decades ago were not changed while attending college (Pace, 1941). One review of available research concludes that college has very little impact on students' personality (Jacob, 1957), and another review provides a somewhat contradictory conclusion (Eddy, 1959). The most comprehensive effort to describe American colleges, the volume edited by Sanford (1962), contains as much information about the college student as can be found in the literature, but even in this volume the little information about students that is presented is exceeded by far by the number of hypotheses and speculations about students.

HOW HAVE STUDENTS CHANGED?

Let us look for a minute at some of the ideas about college students that have received attention recently. Only a decade ago much discussion was devoted to the apathy of American college students. Stories were current that graduates, when seeking employment, were concerned mainly with security and such things as retirement plans, vacation schedules, and guaranteed incomes. Incidentally, the study of high school seniors in 1961 provided evidence strongly supporting the conclusion that high school graduates of that time in Minnesota were not security ridden. (Berdie & Hood, 1965) The stereotype of the apathetic student has been replaced during the past couple of years by the stereotype of the committed or involved student. Books have been written, mainly stimulated by the Berkeley incident, describing the unrest and agitation among college students today. Much of the evidence concerning these stereotypes, whether they involve the apathetic or the rebellious student, is based on impressions such as are reported in the recently published book, Ferment on Campus (Mallery, 1966). A number of students, they may be a few or they may be many, do and say certain things that create impressions, often in the minds of

journalists and other writers, and these impressions tend to be regarded as reality, regardless of the number or proportion of students involved.

A decade ago, were students apathetic, or were they not very much interested in many things that student leaders or faculty members thought ought to interest students? Today, are students rebellious or are there a few students who have discovered ways of obtaining much attention and arousing certain group reactions that lead to the impression of rebellion?

Perhaps instead of interviews with selected students we need data from representative samples of different populations and generations of students to tell us something about their attitudes and expectations in terms of their reactions to the status quo.

Similarly, discussion has been devoted to the morality of college students, particularly as it concerns cheating and sex behavior. Almost without question we accept the statement that morality on the campus has changed. We have little evidence concerning the changes that might have occurred in student behavior, even verbal behavior. Some students can be found who speak differently today than did students a few decades ago but we have some reason to be skeptical about even this extreme statement.

We assume that students are under more pressure and strain today than they were decades ago. We call it stress now. We simply do not know. Members of the staff of the Student Counseling Bureau hope to compare the personality inventory scores of students currently entering the University with scores of those who entered a decade ago and this information will tell us something.

What I am trying to say here is that we frequently speak as if we knew much about students but usually this informa- is based on rather casual experiences with selected individuals or groups of students and more often, on reports from other persons who speak quite authoritatively on the basis of experiences perhaps no more valid than our own. There are many things we do not know.

THE NEED FOR MORE INFORMATION

With almost six million students in about 2,000 colleges in the United States, why do we have so little valid information about either the person or the process in higher education? The literature, and the supporting evidence, regarding administrative organization, building planning and needs,

enrollment prediction, and financial administration are vast when compared to the body of knowledge concerning the student, his experiences, and his curricula. No paucity of literature exists here, merely a lack of evidence, data, and information.

Who should be in college? Who are college students? What are their goals? Where do they come from? What are colleges attempting to do with these students? How effectively are these goals being accomplished? What determines the differential reactions of students to college experiences? How can the efforts of both students and colleges be better planned to achieve the desired objectives?

Obviously, we need much information about college students. The major problems we face are to identify the significant questions and to use research as a strategy in making decisions. Our ability to develop methods for answering questions has been well demonstrated. Our ability to identify and define the crucial questions, however, is still undetermined.

In Minnesota, many individuals and groups constantly are making decisions about higher education. The public at large has questions about higher education. The state legislature devotes much time and money to problems of education and constantly this group faces questions. The governing boards of colleges and universities, our Board of Regents, week-by-week are making policies in answer to questions about students. The University administration, the faculty, and the students themselves must make decisions concerning policy, procedures, and specific actions that depend on assumptions and information about students.

Decisions in the University of Minnesota, like decisions in all other colleges, touch on the purposes of the institution, the selection and admission of students, the classification of students admitted, the development of curriculums, the instructional program, and all of the extra-classroom instructional programs involved in counseling, advising, activities, religious programs, student government, student unions, and student centers. In addition, decisions constantly are made about student services including housing, financial aid, recreation, and student health.

The University of Minnesota has been fortunate in having more information available about its students than do most other institutions. One realizes, however, the importance and relevance of our limited information when one considers the significant decisions that have been made in this University within the past decade. Let us look at those that come

to mind first.

The decision was made to expand the University by developing the west bank of the Mississippi River, a new campus at Duluth, a new campus at Morris, and most recently, a new campus at Crookston. A new library is being developed on the west river bank and new kinds of facilities and services planned for that library. The admissions requirements in the University have been altered, and only last year the minimum requirement for admission in the Arts College was raised. The liberal arts requirements in the total University are being reviewed and certain decisions already have been made concerning the educational background expected of all graduates. Decisions have been made regarding language requirements in the Arts College and mathematics requirements in several colleges. A decision recently was announced to abolish the undergraduate minor in the Arts College. Tuition increases were effected several times during the past decade. Dormitory expansion has proceeded and further expansion is planned with new types of buildings. A program of developing parking facilities has been adopted. The regulations pertaining to the hours of women students have been changed and the requirements that older students live in University approved housing have been relaxed. The University has actively participated in the NDEA Loan Program, the Work-Study Program, and the American College Testing Program. The Arts College has been reorganized, new colleges have been established, and departments have been transferred from one college to another.

All of these decisions and changes provide evidence that the University of Minnesota is a viable, growing, and developing institution. These decisions show acuity on the part of the board, the administration, and the faculty regarding developments and problems in the University. The University is not a static place and many changes have been made.

Some of these decisions were made by the state legislature, strongly influenced by various segments of the public, some were made by the Board of Regents, some by the administration, some by the faculty, and perhaps some by the students. Prior to each decision, relevant questions were identified and discussed and available information reviewed. In some cases, studies were undertaken to gather information and various arguments and alternatives carefully considered.

In many instances, the quality of the decision must depend on the information available and all too often in higher education, such evidence simply is not at hand. Let us consider just for a minute some of the questions that, at the

time of a decision, were difficult or perhaps even impossible to answer, where the answers might have improved the quality of the decision.

For example, how do changes in the occupational choices of students over recent years relate to the colleges and departments in which students will be registered in coming years and how will this influence the traffic pattern on campus? Where do students study and how many hours a week do they study in various places? What are the preferences of students for places to study and what are the characteristics of effective study locales? Do students more easily come to and more effectively utilize small, localized, and specialized library units or more comprehensive and larger units?

To what extent do required liberal arts courses actually influence students? Are students who have completed the credit requirements in specified courses, particularly liberal arts courses, better educated than students who have not, in terms of their later reading habits, cultural appreciations, store of information, and intellectual and community activities?

To what extent is there a relationship between the amount of time or number of credits completed in a foreign language and language fluency, taking into account the verbal facility of the student prior to instruction? What determines the persistence of foreign language skills after a student has completed formal instruction?

The same types of questions can be directed toward mathematics or other specific courses. Related relevant questions include, How is student learning and persistence of learning related to incentive? Do students learn faster and retain longer as a result of taking courses they have selected as opposed to courses required by the college? What are the subsequent post-college careers of students who have completed course work distributed over many departments and students who have restricted course work to a few? How do students obtain funds for their college expenses? To what extent do activities related to the obtaining of funds, particularly employment, interfere with the attainment of the primary objectives of the University?

What conditions in a student residence unit influence effective study methods? What are the effects in student residence units of roommate patterns? To what extent do study rooms in student residences contribute to effective learning? What are the influences of residence counselors competent in the special areas in which students are studying? What are relationships between instructors' attitudes

toward students, the college, the curriculum, and their own specialties, and student attitude, progress, and success?

All of these questions fall under the most general question of, "What are the changes that occur in students while they are in college and what influences these changes?"

I have made this rather lengthy introduction on the assumption that all of us agree that more information about students is needed and my purpose has been to focus on why we need this information and to suggest some of the questions we wish to answer.

RECENT RESEARCH

Comprehensive and well-designed and conducted studies of college students have been rare. Back in the 1930's Learned and Wood (1938), using standardized ability and achievement tests, provided some of the early striking evidence regarding the diversity of college students within a single state. They reported, for example, that one-fourth of their college seniors made scores that were below those of the average college sophomore and that ten per cent of college seniors had scores below those of the average high school senior. Large differences were demonstrated both within and between colleges and in every instance when group comparisons revealed mean differences, at the same time extensive overlapping was present.

Newcomb's (1943) well known study of Bennington students, although it did not provide much of a basis for generalization, did provide a model for such research and demonstrated that the college student was a possible laboratory specimen. Later than Newcomb, Sanford and his colleagues (1962) demonstrated at Vassar that systematic changes could be identified in cohorts of students and that these observed changes provided greater understanding of both student development and the educational process.

Both Darley (1962) and Iffert (1957) reported information on broader samplings of University students and provided needed information concerning student characteristics. Iffert's study provided a comprehensive picture of student persistence in the United States and raised the possibility of the colleges revising their thinking so that the finished product was not only a student who completed the four years required for a baccalaureate but that the large number of students attending college for one, two, or three years also were products of higher education and should not be regarded necessarily by the colleges as waste or academic casualties.

Darley's report provided additional evidence concerning the diversity within American higher education and at the same time provided descriptions of the flow of students within and between institutions. Although his data do not support the conclusion that for every type of student there is a college, certainly they do reveal that for many, many types of students there are many, many colleges.

The work of Holland and Astin (1961), at first at the National Merit Scholarship Foundation, and the later work of Holland (1964) and his colleagues at the American College Testing Program, provide additional information regarding large segments of the American college population. The National Merit Foundation research for the most part was directed toward extremely high ability students planning to attend or actually attending college. The ACT research has dealt with what is a more representative sample of college students. Again, this research reveals the diversity among college students, and this diversity extends from ability and academic achievement to all kinds of personal and social characteristics.

Pace, Stern, and others (1958), in their development of instruments to appraise college and student characteristics, have provided considerable information concerning students and institutions. Mainly these studies have demonstrated differences in student perceptions and expectations and revealed that these differences can be viewed systematically and make considerable sense.

Before looking at a more intensive picture of students at the University of Minnesota, what does all of this available research reveal to us about the American college student. Here are some generalizations that we can accept as based on at least fairly good evidence:

1. Most American college students begin their college careers within the year following high school graduation.

2. Slightly over one-half of college freshmen eventually graduate from college.

3. The typical college graduate requires more than four years to obtain his degree.

4. Colleges differ widely in terms of their average students, considering ability, academic achievement, socio-economic background, and personality and interest factors.

5. Even for colleges which have widely different averages, considerable overlap usually is found and in most colleges having low averages, some students will be found who are considerably higher than the average student in other colleges.

6. Fewer than one-half of college freshmen who graduate remain in and graduate from the curriculum or vocational specialty they selected upon entrance.

7. Observable changes in values and attitudes resulting from college experiences are not great for a large proportion of college students.

These generalizations are most significant because of how few they are and how little they actually tell us about the American college student.

CHARACTERISTICS OF UNIVERSITY OF MINNESOTA STUDENTS

Rather than attempting to catalog the known information about University of Minnesota students, I would prefer to select a few of the dimensions open to us and discuss the relevance of these, the implications these have for the University and decisions pertaining to higher education. A few years ago, at our Little Falls Conference, a more comprehensive description was assembled of Minnesota students and only a month ago, in the Student Counseling Bureau Newsletter, a summary description was reported of many aspects of the entering freshman class (Berdie, 1966). Much of the information we do have about students reminds one of the game in which one first identifies an answer and then searches for a question appropriate for that answer. We know much about our Minnesota students, but sometimes we are embarrassed in our attempts to determine in what way our knowledge makes any difference in operating the University. This afternoon I will attempt to direct myself to this latter question.

DIVERSITY AMONG STUDENTS

The first systematic studies of University of Minnesota students, those done by Dean Johnston about the time of the First World War, revealed what has continued to be the most obvious and significant datum about our student population. Students differ from one another in many ways and these differences are large and have educational relevance. Some students have much more scholastic aptitude than do others; some have better study habits; some work harder than do

others; and some work more effectively than do others. Individual differences among students are found physically, mentally, socially, economically, and emotionally. Students come to the University with different vocational objectives, expectations, perceptions, problems, and needs.

These differences are so extensive and involve so many dimensions that students cannot be easily classified, categorized, or fit into relatively homogeneous groups. If students with a given scholastic aptitude test score are placed within a group, these students will differ widely in terms of their academic achievement, socio-economic backgrounds, and personalities. If students with similar abilities, academic achievement, and socio-economic backgrounds are identified, among this group will be found students with widely varying attitudes and expectations. Each student is an individual unlike any other student and must be so considered.

The educational relevance of this fact is obvious, as are the problems it presents to the University. No single program is likely to meet the needs of all, or perhaps even a large proportion of students. When some students will learn fast, and others slowly, the same instructional program seems hardly inadequate. When some students enter the University with a fairly good knowledge of advanced mathematics, and others are mathematically illiterate, the same courses are not appropriate for all students. Students whose intellectual curiosities already have been developed require different experiences than do students whose curiosities still are latent.

This University, like most other institutions, to some extent recognizes the relevance of this phenomenon. Students enter different colleges within the University on the basis of their vocational goals and their demonstrated abilities and achievements. Within each college students initiate their collegiate work at different levels, depending on their achieved backgrounds in English, mathematics, languages, and sciences. Apparently we assume that all students entering college have quite the same backgrounds in and skill related to the social sciences insofar as we tend to start the students at the same levels. Provisions are made for students who have deficient backgrounds and they can take preparatory courses, usually not carrying college credit. Provisions also are made, although not with much enthusiasm, for students with particularly good backgrounds and advanced standing opportunities are available to these.

The University has made two outstanding adjustments in consideration of the differences among students, the University College and the Interdepartmental Major within the Arts

College. The University College provides to a few students each year an opportunity to tailor make a program most appropriate for the student in terms of his needs and abilities, and calling on all of the resources within the University. The Interdepartmental Major in the Arts College provides somewhat the same opportunity for students within that one division. The faculty and administration of the University recognized, decades ago, that regardless of the number of separate programs established for groups and subgroups of students, always there would be individuals who could benefit by unique programs not established formally within the University.

Perhaps the greatest opportunity for individualization of curriculum planning and instruction, and greatest recognition of the relevance of individual differences within the University, is found in the graduate school. Some divisions within the graduate school have thoroughly prescribed curricula and students complete the courses and requirements established by the department, regardless of differences among students. In many departments, however, the procedure of program planning for graduate students consists of the student and his advisor selecting the courses and experiences most appropriate for the student after a discussion of the student's educational-vocational goals, his previous background, and his own particular interests. This individualized program, arrived at by the student and his advisor, frequently is subjected to departmental review and always to group committee review in the graduate school to see that the professional, scientific, and academic objectives of the graduate program have been considered. The procedure requires much time and effort on the part of both the graduate student and his advisor but the benefits of tailor making an education should be great.

Perhaps the relevance for the University of this fact of individual differences can be stated simply in this way. The University must have a great variety of programs, services, and courses available to students who have different needs and abilities, and attempts to categorize and classify students and curricula for purposes of convenience and efficiency can be carried only so far before many students will have placed before them a diet quite unsuitable.

DIVERSITY WITHIN STUDENTS

A second fact, not quite so often recognized, but equally important, pertains to the intraindividual differences found within students. In general, students who are best able to do well in foreign languages are best able to do well in the social studies, and there is some evidence that a "general factor" helps explain academic success. In spite of this, however,

there are broad differences within each student, and many students are found who can do relatively well in one type of activity and quite poorly in another. Some students can achieve more effectively in mathematics than they can in social studies, and for each of these students, are some who can do better in social studies than they can in mathematics. We are not concerned here so much with the sources of these differences, whether they result from earlier experiences of the students or from more built-in conditions, but rather with the existence of these differences.

The two studies at Minnesota done recently by Johnson (1961) and Lester (1963) provide some evidence concerning the extent of these differences within individuals. Every student entering the University is given a series of four achievement tests, ACT tests in English, mathematics, social studies, and natural sciences. If students were consistent in their behaviors, four tests would not be necessary. One could tell whether a student was good in mathematics or English simply by giving him a single test. In general, the four tests scores are positively correlated and these correlations are not low, but any counselor or admissions officer after working with a few dozen of these students realizes that some students have much higher scores on some tests than they do on others. The work of Lester indicated that the tests do have differential prediction ability and that students with certain patterns of test scores do better in some subjects than they do in others.

The consideration now being given in the University to the establishment of a Bachelor of Fine Arts degree in light of this fact is most encouraging. Some students with outstanding artistic or musical ability lack other aptitudes, just as many students quite proficient in mathematics or foreign language have little or no musical or artistic ability.

My own values lead me to believe that students who have certain superior aptitudes should not be deprived of the opportunity for developing these because they lack other aptitudes and when the University has resources that provide for the development of aptitudes that are present, it should not refuse a student access to these resources because he cannot effectively exploit the resources demanding skills he does not possess. You see here how the relevance of what I have been calling fact depends in large part on the educational philosophy of the person making the interpretation of relevance.

DIVERSITY IN STUDENT BACKGROUND

Students come from different families and have different backgrounds and these differences result in varying

experiences which influence the needs and capacities of students. Where do Minnesota students come from and what are their backgrounds? How are these characteristics to be viewed in light of what the University does?

A majority of University students are "first generation students;" that is, most of them have parents who have graduated from high school but not attended college. Approximately two-thirds of the students come from homes where neither parent has had much, if any, college experience. Almost one-fifth of the men entering the University have fathers with no more than eighth grade educations. A high proportion of the students come from homes where the parents are in skilled trades, semi-skilled trades, unskilled occupations, or industrial and production jobs.

Many of them come from homes having no more than 25 or 50 books and the typical magazines to which the family subscribes are Reader's Digest and Life. Relatively few students come from homes where magazines such as Harper's, Atlantic Monthly, or the Saturday Review are found and very rare is the student who has in his home magazines such as the Antioch Review, the Foreign Affairs Quarterly, the American Scholar, or magazines primarily devoted to the arts or to more intensive analyses of social problems.

What are the implications of this economic, social, and cultural background for a University? English instructors always have been well aware of the problem of teaching writing to students coming from "dese and dose" families. Placement officers have been aware of problems of helping students with deviate table manners obtain much wanted jobs. College counselors long have been aware of students frustrated in their social goals because of deviate habits pertaining to clothing and manners.

For many students college is a menas for upward mobility and many students are willing but unable to conform to upper middle class expectations. Certainly the goal of a college is not to have everybody dress and behave as Amy Vanderbilt dictates, but should it not provide opportunities for students to change certain behavior?

Many University students come from homes where quantitative approaches to a problem and measurement incorporated into the thought processes are almost unknown. Many have had restricted contact with persons from other cultures. I remember my own surprise several years ago when I talked with a college freshman who told me that she never had talked with a negro or as far as she knew, seen or talked with a Jew. This knowledge about our students provides

supporting evidence for our maintaining on our campuses numbers of students from other countries and programs for "mixing" students from all races, religions, and nationalities.

Certainly this information has implications for our orientation programs, for our advising and counseling programs, and for our curriculum planning.

RESIDENT-COMMUTER DIFFERENCES

A majority of our undergraduates live at home. The problems of a commuter campus in many ways are quite different from those of a residential college, and the problems of a college that is part commuter, part residential, are even greater.

Thirty-five per cent of commuting students in 1949 belonged to not a single student organization, as compared to about 12 per cent of those who lived on campus. (Williamson, Layton, and Snoke.) A large number of these students could describe no activity in which they engage on the University campus other than attending class. Many of these students are not members of the University community at all and maintain their interpersonal relationships with persons in their home neighborhood, from their former high school, or in non-campus church or other organizations. These off-campus activities may have much to contribute to the educational development of the student and students may, in fact, derive more from these than they do from more carefully structured ones within the University. Before such a comparison can be made, however, opportunities have to be planned for campus activities so that commuting students can and will participate.

The Student Union and libraries presumably serve as campus centers for commuting students. A few students focus on fraternities, sororities, and religious foundations but we do not really know much about this. We do know that of a sample of University freshmen questioned at the end of their freshman year last year, 53 per cent reported they used student union facilities often or sometimes. Exactly the same proportion reported that during the freshman year they had been spectators at University sports events and slightly more than that reported they had visited displays on the campus. The survey revealed that only a small proportion of all students took advantage of any one University facility or service.

The University has paid most attention to the commuter student regarding the problem of parking his car. Food

services are available to him but in almost every other instance, the assumption is made that those services and resources of the University available to all students are available to the commuting student and he should make use of them.

The problem of providing adequate study space presents an interesting illustration. We simply do not know where or how many hours a week students study. We do know that many students report they are unable to find satisfactory study conditions at home, because of the presence of small children who make noise, parents who keep the TV too loud, ringing telephones, and other distractions. Some students live with families in homes or apartments where there simply is not room for study. Currently the University is attempting to expand its studying facilities by making available room on the University campus and in the new library on the West Bank. An interesting hypothesis is that students would make more effective use of University study areas not located on the campus but located throughout the city where more space is available, access is more convenient to students, and time spent in transportation could be spent on studies. Could a large room be obtained in a suburb which sends perhaps thousands of students to the University and in this room a minimum reference library maintained, adequate desks or tables with seating provided for studying, and perhaps a person to supervise the study room?

ATTITUDINAL AND INTEREST DIFFERENCES

We have considerable information regarding the differences among University students in their attitudes and interests as they approach the University.

Since the University can categorize administratively its students and assign them to relatively homogeneous groups, our task of understanding the characteristics of University students becomes somewhat easier. Within a complex University the obvious category is based on college or division and the evidence available indicates that this is a psychologically meaningful category as well as an administratively convenient one. The scholastic comparison studies done by the Student Counseling Bureau during the past 30 years demonstrate the ability and academic differences among University colleges. The volume by Darley and Hagenah (1955) shows the extent of differences between colleges on the distribution of Strong Vocational Interest Blank scores. The recent work done on the College and University Environment Scales shows that significant differences are found among colleges on all five of the scales. Similar dif-

ferences among colleges can be noted on such variables as parental occupation and education and student residence.

However, these same data show an astonishing diversity within colleges and although the differences among colleges are large and statistically significant when one considers the averages, the amount of overlapping among colleges on any one of these variables is more impressive than the differences among means. Regardless of the variable, in every college are found students who exceed the mean in every other college; no college has a monopoly on bright, dull, wealthy, impoverished, ambitious, crazy, adjusted, or disturbed students.

Students can be assigned to categories on the basis of a vocational goal or objective. This category system quite well corresponds to that we have when we use colleges and again we find somewhat the same differences between means and the same extent of overlapping.

RELEVANCE OF RESEARCH TO DECISION MAKING

Research on students constitutes an important strategy in the decision making process of higher education. The development and selection of alternatives pertinent to curriculum, instruction, physical plant, student personnel services, and every other aspect of college and university planning can be improved if they are based on knowledge about students.

Many dimensions of the student body are open to investigation, and each of these is relevant to the institution. The adequacy of institutional programs depends on the extent they conform to students' academic abilities and achievements, socio-economic backgrounds, cultural and vocational interests and readiness, and attitudes, values, and expectations. Only after considering these aspects of students can the staff of a college decide what the college now is, what it should be, and how it might become that.

The strategy of research is not an easy one because it is founded on the assumption of our ignorance about that which concerns us most deeply. The most difficult part of this research orientation is the question asking, not the answer finding. To pose meaningful questions relevant to impending decisions requires a more deliberate, logical, and self-divesting approach to problem solving than that with which most of us are familiar. When faced by a dilemma, we must ask ourselves, "In order to make a good decision here, what must I know about students that I now do not know?" Once we have the imagination to ask these questions well, then we will have the skill to find their answers.

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